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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,162	12/21/2001	John Michael Koshoffer	13DV-14056	8166

7590 10/22/2003

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EXAMINER

KOCZO JR, MICHAEL

ART UNIT	PAPER NUMBER
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3746

DATE MAILED: 10/22/2003

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/026,162

Applicant(s)

KOSHOFFER ET AL.

Examiner

Michael Koczo, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 10, 12-18 and 20 is/are pending in the application.
- 4a) Of the above claim(s) 1-5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6, 7, 10, 12-18 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Applicant's arguments filed on September 10, 2003 have been fully considered but they are not persuasive.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the structure of claims 12, 13, 16 and 17 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Applicant argues that "Under 37 C.F.R. 1.83(a), features disclosed in the description and claims need not be shown in the drawings where their detailed illustration is not essential for a proper understanding of the invention." This is incorrect. The rule states that "conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation".

However, in the instant application, the claimed features are clearly essential for a proper understanding of the invention and must be shown.

Claim Rejections - 35 USC § 112

Claims 6, 7, 10, 12 to 18 and 20 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The description of the structure and operation of the deflagration chamber 100 and the detonation chamber 102 are totally inadequate. What is the structure of these chambers? How does the gas flow from one chamber to the other? What is the structure of the vaneless radial nozzle? The chambers are shown in a merely schematic form which is inadequate for an understanding of their structure and function.

On page 5, paragraph 3, the description of the operation of the chambers is not understood. Lines 23 and 24 state that "Flow is directed from chamber 100 by the vaneless radial nozzle which operates above a critical pressure ratio into detonation chamber 102". It is not understood how the flow is "directed" by the vaneless radial nozzle since no nozzle structure is disclosed. It is also not understood what is meant by "critical pressure ratio" since this expression is not defined. What is the pressure to which is referred? Why does the nozzle operate above a critical pressure ratio? No control system is disclosed which would control operation of the nozzle.

The specification states that "Fuel is supplied to the deflagration chamber 100 such that chamber 100 is operated in a fuel-rich mode of operation". That is, all of the air is consumed

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during combustion. How is it then possible to combust the fuel rich combustion products in detonation chamber 102 in the absence of oxygen?

Furthermore, whether deflagration combustion or detonation combustion occurs is dependent on structural and operational parameters which are not described. For example, why does the fuel in chamber 102 detonate instead of deflagrate?

Thorough revision of the specification is required. However, applicant is cautioned against the introduction of new matter by amendment.

Applicant argues that “The structure of these chambers are [sic] clearly illustrated in the drawings and described in the specification...”. The examiner disagrees. In figure 2, for example, the chambers are shown highly schematically, and it is not even clear that the drawn lines represent chambers.

Applicant then argues that “one of ordinary skill in the art would understand a vaneless radial nozzle.” The examiner has never stated that vaneless radial nozzles are not known. The issue is whether or not one of ordinary skill in the art would know how to integrate such a nozzle into the structure which is disclosed. Since no nozzle or chamber structure is shown or described in the specification, one of ordinary skill in the art would not know how to integrate such a nozzle into the structure.

Applicant cites the *Verve LLC v. Crane Cams, Inc.* decision which states that “the patentee is not required to include in the specification information readily understood by practitioners”. However, applicant has provided no evidence to show that such is the case in this application.

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Regarding the question of how is it possible to combust the fuel rich combustion products in detonation chamber 102 in the absence of oxygen, applicant cites from the specification which states that the deflagration chamber 100 is coupled with an air source. This does not address the question of how combustion can be achieved in the detonation chamber 102 since there is no mention of an air source to the detonation chamber.

Applicant's arguments are replete with conclusions and allegations which are unsubstantiated by evidence such as affidavits.

For example, applicant argues that "an artisan of ordinary skill in the art would understand the structural and operational parameters that determine whether deflagration combustion or detonation combustion occurs." No evidence is provided to support this statement.

Conclusion

The prior art has not been applied to the claims due to their basis on a non-enabling disclosure.

This application contains claims 1 to 5 drawn to an invention nonelected with traverse in Paper No. 7. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

This is a continuation of applicant's earlier application. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case.

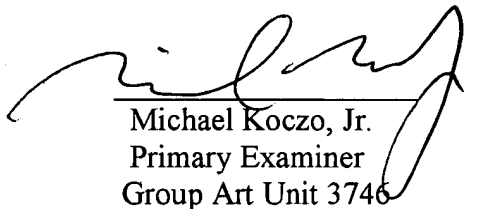
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See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry relating to the status of this application or proceeding should be directed to the Customer Service Office whose telephone number is 703-306-5648.

Any inquiry relating to patent applications in general should be directed to the Patent Assistance Center at 1-800-786-9199.



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